

## CLAIMS

What is claimed is:

1           1.     A system for suppressing radio frequency radiation, comprising:  
2           a ferrite material inductively coupled to a signal carrier, the signal carrier  
3           having current at a first frequency and a second frequency;  
4           means for reducing saturation of the ferrite material at the first frequency,  
5           thereby allowing the ferrite material to suppress current at the second frequency,  
6           where the second frequency is higher than the first frequency.

1           2.     The system of claim 1, wherein the means for reducing saturation  
2           further comprises means for varying the inductance of the signal carrier.

1           3.     The system of claim 2, wherein the inductance varying means is  
2           mechanical.

1           4.     The system of claim 2, wherein the inductance varying means is  
2           electro-mechanical.

1           5.     The system of claim 2, wherein the inductance varying means is an  
2           electronic control signal.

1           6.     The system of claim 1, wherein the means for reducing saturation  
2     further comprises means for inductively coupling the signal carrier to a means for  
3     varying the resistance of the signal carrier.

1           7.     The system of claim 6, wherein the resistance varying means  
2     comprises a mechanically variable resistor.

1           8.     The system of claim 6, wherein the resistance varying means  
2     comprises an electro-mechanically variable resistor.

1           9.     The system of claim 6, wherein the resistance varying means  
2     comprises a variable resistor controlled by an electronic circuit.

1           10.    The system of claim 1, wherein means for reducing saturation reduces  
2     the current in the signal carrier at the first frequency.

1           11.    A method for suppressing radio frequency radiation, comprising:  
2           inductively coupling a ferrite material to a signal carrier, the signal carrier  
3     having current at a first frequency and a second frequency;  
4           reducing saturation of the ferrite material at the first frequency, thereby  
5     allowing the ferrite material to suppress current at the second frequency, where the  
6     second frequency is higher than the first frequency.

1           12.    The method of claim 11, further comprising varying the inductance of  
2   the signal carrier.

1           13.    The method of claim 12, further comprising mechanically varying the  
2   inductance of the signal carrier.

1           14.    The method of claim 12, further comprising electro-mechanically  
2   varying the inductance of the signal carrier.

1           15.    The method of claim 12, further comprising electronically varying the  
2   inductance of the signal carrier.

1           16.    The method of claim 11, further comprising inductively coupling the  
2   signal carrier to a variable resistance.

1           17.    The method of claim 16, further comprising mechanically varying the  
2   resistance to adjust the inductance of the signal carrier.

1           18.    The method of claim 16, further comprising electro-mechanically  
2   varying the resistance to adjust the inductance of the signal carrier.

1           19.    The method of claim 16, further comprising electronically varying the  
2   resistance to adjust the inductance of the signal carrier.

1           20.    The method of claim 11, wherein reducing saturation of the ferrite  
2   material reduces the current in the signal carrier at the first frequency.

1           21.    A variable filter for suppressing radio frequency emission, comprising:  
2           a ferrite material inductively coupled to a signal carrier, the signal carrier  
3   having current at a first frequency and a second frequency, wherein the signal carrier  
4   has a variable inductance for adjusting the electrical characteristics of the signal  
5   carrier for reducing saturation of the ferrite material at the first frequency, thereby  
6   allowing the ferrite material to suppress current at the second frequency, where the  
7   second frequency is higher than the first frequency.

1           22.    The filter of claim 21, further comprising an adjustable resistance  
2   inductively coupled to the signal carrier, the adjustable resistance configured to vary  
3   the electrical characteristics of the signal carrier.

1           23.    The system of claim 21, wherein the variable inductance reduces the  
2   current in the signal conductor at the first frequency.